

Notice of Allowability	Application No.	Applicant(s)	
	10/068,100	TADA, SEIJI	
	Examiner	Art Unit	
	Colby Hansen	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/25/2005.
2. ☒ The allowed claim(s) is/are 5-7, 10 and 12.
3. ☒ The drawings filed on 05 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

Claims 5-7, 10, and 12 are allowed.

The following is an examiner's statement of reasons for allowance: With regard to claims 5-6, 10, and 12, the prior art of record does not disclose or otherwise suggest a ball bearing assembly with inner and outer rings, intrapositioned ball bearings, an annular cage with a plurality of pockets corresponding to the number of said ball bearings wherein the cage pockets have a relationship between a guide clearance α and a pocket β that takes into account an expansion amount of said annular cage in said radial direction due to rotational centrifugal force x , and an expansion amount of said annular cage in said radial direction due to thermal expansion y , such that a relationship $x+y < \alpha < \beta + x$ is achieved, such that said inner wall surface of said pockets of said cage does not interfere with said balls, even when said cage becomes off-centered.

With regard to claim 7, the prior art of record does not disclose or otherwise suggest a ball bearing assembly with inner and outer rings, intrapositioned ball bearings, an annular cage with a plurality of pockets corresponding to the number of said ball bearings wherein the cage pockets have a relationship between a guide clearance range α_{\min} to α_{\max} and a pocket clearance range β_{\min} to β_{\max} that takes into account an expansion amount of said annular cage in said radial direction due to rotational centrifugal force x , and an expansion amount of said annular cage in said radial direction due to thermal expansion y , such that the relationships

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$\alpha_{\max} > \beta_{\min} + x$ and $\alpha_{\min} > x+y$ are met, such that said inner wall surface of said pockets of said cage does not interfere with said balls, even when said cage becomes off-centered.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colby Hansen whose telephone number is (571) 272-7105. The examiner can normally be reached on Monday through Thursday and every other Friday from 7:30 PM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bucci, can be reached on (571) 272- 7099. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

Colby M. Hansen

Patent Examiner



8/19/05



DAVID FENSTERMACHER
PRIMARY EXAMINER

8/19/05